

Subject: Fish Passage Assessment

Background: In many areas, high quality aquatic habitat exists upstream of small agricultural diversions and power generation facilities located on tributaries of the Sacramento and San Joaquin Rivers. These diversion structures and dams block fish passage, can adversely impact downstream migration, and alter flow patterns. They may restrict natural sediment transport processes which can result in channel incision and other adverse geomorphological changes. Although some diversions include fish passage facilities, these are not always effective and do not address sediment transport issues.

Removal of these diversion dams can provide unimpeded fish passage to upstream anadromous fish habitat and can improve downstream migration for juveniles. Natural sediment transport can also resume. In addition to removal of dams, there may be other alternatives such as consolidation of existing structures to also reduce the number of fish passage facilities needed and may provide more ecological benefits than retaining all structures with traditional fish ladder and screening solutions.

In addition to fish passage problems at diversion dams, there are some areas where changes to the stream channel have caused fish passage concerns. Opportunities exist to reduce fish migration delays, stranding and straying resulting from these fish passage problems through mechanical manipulation coupled with instream flow management.

Proposed Action: Convene a workgroup of experts to work with local efforts to conduct the assessments necessary to identify small diversion dams which are appropriate for removal or consolidation, and small diversion dams which need to be replaced or modified with fish-friendly structures. In evaluating a structure, there should be some assessment of cost-effectiveness, ecological considerations such as the type of upstream habitat, and other factors such as water conservation and non-structural flood management. These experts would need to be able to properly balance quantitative cost-benefit analyses with non-quantifiable costs and benefits.

Geographic Area: Throughout the Sacramento-San Joaquin Delta system.

Recommended Funding: \$500,000 to \$1,000,000

Coordination: The workgroup needs to include representatives from agencies such as ACOE, Bureau of Reclamation, and NMFS; environmental groups, local watershed groups, irrigation districts, power companies, dam operators, and dam owners.

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